

OPERATIVE NOTE

Patient Name: [REDACTED]

MRN: [REDACTED]

Date of Birth: [REDACTED]

Date of Service: 11/26/2012

PREOPERATIVE DIAGNOSIS:
Coronary artery disease.

POSTOPERATIVE DIAGNOSIS:
Coronary artery disease.

PROCEDURE PERFORMED:

Four-vessel coronary artery bypass using the left internal mammary artery to bypass the left anterior descending artery and three reverse autogenous saphenous vein graft to bypass the first diagonal branch to the LAD, the second diagonal branch to the LAD, and the left-sided posterior descending artery, which came off of the distal circumflex artery.

SURGEON:
Stephen Lahey, MD

ASSISTANT:
[REDACTED]

ANESTHESIA:
General endotracheal anesthesia.

INDICATIONS FOR OPERATION:

This 76-year-old gentleman was being evaluated prior to repair of bilateral carpal tunnel syndromes. He was noted on EKG to have a different-appearing EKG than from six months ago. In retrospect, he states that he probably was experiencing exertional dyspnea on a more regular basis. He was seen by Dr. [REDACTED] and his workup eventually culminated in a cardiac catheterization, which was markedly positive. The patient had a tight proximal LAD stenosis. He also had significant disease in two diagonal branches of the LAD and in the distal circumflex artery, after which arose the left-sided posterior descending artery. I was asked to see the patient in surgical consultation and agreed with Dr. [REDACTED] that Mr. [REDACTED] should be offered coronary bypass surgery. The risks and benefits of the operation as well as any alternative therapies were explained to the patient and his wife, and they both agreed with the proposed treatment of coronary bypass surgery.

DESCRIPTION OF OPERATION:

After the successful induction of general endotracheal anesthesia, an arterial line was placed for continuous blood pressure monitoring. A central venous pressure line was placed in the superior vena cava via the right internal jugular vein. Because the patient had normal ventricular function, it was decided not to use a Swan-Ganz catheter. The patient came to the operating room with significant bilateral lower extremity swelling. This was at least 3+ pitting edema, with no obvious varicosities. The patient also did not have any rales suggestive

of congestive heart failure. Because of the massive edema and unclear etiology, the decision was made to remove the greater saphenous vein from the right thigh with an open technique. An incision was made overlying the course of the greater saphenous vein from the groin to the knee. The greater saphenous vein was identified and harvested. Side branches were secured with 4-0 silk ties. The leg was then closed after harvesting the greater saphenous vein in two layers with a 0-Vicryl stitch. The skin was reapproximated with the running 4-0 Monocryl intracuticular stitch. A midline sternal incision was made. This incision was carried down through the soft tissues with Bovie electrocautery. The sternum was opened with a saw.

Next, the internal mammary artery retractor was placed and the left internal mammary artery was dissected down off of the left anterior chest wall with Bovie electrocautery. While a tremendous amount of clear tissue fluid was noted in operating on the patient's thigh, similar edema fluid was noted in his chest wall. The internal mammary artery retractor was placed and the internal mammary artery was dissected down with some difficulty because of the significant tissue edema. Nevertheless, side branches were secured with either Bovie cautery or Hemoclips. The patient was systemically heparinized. The distal end of the internal mammary artery was then ligated and divided. Adequate flows through the internal mammary artery were noted. A vascular bulldog clamp was placed on the distal end of the mammary artery pedicle, which was allowed to sit in a papaverine-soaked sponge.

Next, the pericardium was opened and suspended. Two 2-0 Ethibond pursestring sutures were placed in the ascending aorta through which was placed an arterial perfusing cannula. A 2-0 Ethibond pursestring suture was placed in the right atrial appendage through which was placed a double-lumen two-stage venous cannula. A soft flexible coronary sinus retrograde cardioplegic cannula was inserted through a small stab wound in the right atrial sidewall and placed in the coronary sinus. An antegrade cardioplegic cannula was placed in the ascending aorta. Cardiopulmonary bypass was then instituted. When decompressed, the heart was examined and suitable sites for distal coronary artery bypass anastomoses were determined. On inspection of the heart, a rather unusual finding was noted. It appeared that some of the patient's cardiac tissues specifically his right atrium, had a distinct greenish hue to it. An area of atrium was isolated between a 4-0 pledgetted horizontal mattress stitch and in between the pledgets, a piece of atrium was removed and sent to pathology for examination. Cardiopulmonary bypass was instituted. When decompressed, the heart was again examined. The patient's core temperature was allowed to drift to 34 degrees centigrade. An aortic cross-clamp was placed on the ascending aorta and the heart was arrested by injecting warm blood cardioplegia through the aortic root. After a satisfactory arrest was achieved, a pericardial insulating pad was placed in the pericardial well and a myocardial temperature probe was placed in the anterior interventricular septum. An equal volume of cold blood cardioplegia was delivered through the aortic root and subsequently through the coronary sinus in retrograde fashion, so that the anterior interventricular septal temperature dropped below 10 degrees centigrade. Iced saline was used as a topical myocardial coolant. The heart was retracted in such a way as to gain access to the left-sided posterior descending

artery. A 1-cm arteriotomy was made in this artery and a reverse autogenous saphenous vein graft was anastomosed to the artery in end-to-side fashion with a running 7-0 Prolene stitch. Following this anastomosis, the patient received 300 cc of antegrade cardioplegia through the vein graft as well as through the aortic root followed by an equal volume of retrograde cardioplegia through the coronary sinus.

Next, the heart was retracted in such way as to gain access to the first diagonal branch to the LAD. This was a much smaller artery. Nevertheless, a 1-cm arteriotomy was made in the artery and a reverse autogenous saphenous vein graft was then anastomosed to the artery in end-to-side fashion with a running 7-0 Prolene stitch. Following this anastomosis, the patient again received 300 cc of cold blood antegrade cardioplegia through both vein grafts as well as through the aortic root, which was then followed by an equal volume of retrograde cardioplegia.

Next, the heart was retracted in a such way as to gain access to the second diagonal branch of the LAD. This was a much larger artery. A 1-cm arteriotomy was made in the second diagonal branch. A reverse autogenous saphenous vein graft was anastomosed to this artery in end-to-side fashion with a running 7-0 Prolene stitch. Following this anastomosis, the patient received 300 cc of antegrade cardioplegia through three vein grafts as well as through the aortic root followed by an equal volume of retrograde cardioplegia.

Next, the heart was retracted in such a way as to gain access to the left anterior descending artery. The LIMA was brought in close apposition to the LAD. A 1-cm arteriotomy was made in the LAD and the LIMA was anastomosed through the artery in end-to-side fashion with a running 8-0 Prolene stitch. After completing this last anastomosis, continuous warm blood cardioplegia was delivered through the retrograde coronary sinus cannula as the proximal aortocoronary anastomoses were completed. The patient was also systemically warmed eventually to 37 degrees centigrade. Three separate aortotomy punch holes were made in the ascending aorta. The vein grafts to the first and second diagonal branches to the LAD as well as to the left-sided PDA was then anastomosed to the ascending aorta in end-to-side fashion with a running 6-0 Prolene stitch. Vascular bulldog clamps were placed on each of the vein grafts. The patient was placed in a steep Trendelenburg position. With vascular bulldog clamps on all the vein grafts as well as on the internal mammary artery, the aortic cross-clamp was removed. The vascular bulldog clamp on the internal mammary artery was removed. The three vein grafts were de-aired, and following this, all three vascular bulldog clamps on the vein grafts were removed. When the patient's systemic temperature reached 37 degrees centigrade, ventilation was resumed. Two ventricular and two atrial pacing wires were placed on the patient's heart and brought out through separate stab wounds inferior to the incision. The patient was then weaned from cardiopulmonary bypass on a small amount of Neo-Syneprine. Systemic heparinization was then reversed with protamine sulfate solution. The patient was then decannulated without event. A straight #32 and an angled #28 chest tube were placed in the anterior mediastinal and retrocardiac positions respectively and brought out through separate stab wounds inferior to the

incision. A straight #28 chest tube was placed in the left pleural cavity and brought out through a separate stab wound lateral to the incision. The entire chest cavity was then copiously irrigated with warm saline. Careful check for hemostasis was made throughout the entire chest cavity, which included all proximal and distal anastomotic sites as well as all cannulation sites. The chest was then closed by reapproximating the sternum with seven #5 surgical stainless steel wire sutures. The overlying subcutaneous tissues were again copiously irrigated with warm saline and then closed in two layers with a running 0-vicryl stitch. The skin was then closed with a running 4-0 Monocryl intracuticular stitch. At the conclusion of the case, the needle, sponge, and instrument counts were all correct. The patient was brought to the intensive care unit in excellent condition. As the attending physician, I was present in the operating room from the time of induction of general anesthesia until the patient was transported to the intensive care unit at the conclusion of the case.

____ Date _____ Time _____
Stephen Lahey, MD

Dictated By: Stephen Lahey, MD
n: 11/26/2012 16 50 T: 11/26/2012 21 31 Job#: [REDACTED]

CC: Stephen Lahey, MD
[REDACTED]

Authenticated by STEPHEN LAHEY, MD On 11/30/2012 03:54:42 PM